

REMARKS

The Office Action of July 3, 2002 has been received and its contents carefully reviewed. Claims 27 and 28 (referred to as Claims 1 and 2 in the Office Action) are currently pending in the application.

The present invention is directed to an electrical contact and a connector assembly incorporating the contact. More particularly, the present invention is directed to an electrical contact that provides improved "hot swap" capability. In other words, the ability to insert and remove electronic cards into and out of a system while the system is on without negative effects on the system.

Claims 27 and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,747,783 to Bellamy et al. (hereinafter "the Bellamy reference") in view of U.S. Patent No. 5,236,789 to Cowie et al. (hereinafter "the Cowie reference"). The rejection is respectfully traversed.

14 The Office Action states that the Bellamy reference discloses "a connector assembly comprising a first electrical contact (11), a second or mating contact (19), the first electrical contact having a conductive portion (11) and a resistive portion (13), the resistive portion exposed for direct engagement with the second contact." The Office Action further states, "Bellamy et al substantially disclose the claimed invention except the resistive portion is in direct contact with the conductive portion." It seems that the foregoing statement inadvertently omits the word "not" after "is" and as such it seems the Cowie reference is being cited for its teaching of a resistive portion in direct contact with the conductive portion. Applicants' representative is responding based upon this premise. If this is incorrect, it is respectfully requested that the examiner specifically address the otherwise
26 confusing statement.

While it is correct that the Cowie reference teaches a contact comprising two different materials in direct contact with each other to provide good electrical conduction, there is no suggestion or motivation for one of

ordinary skill in the art to combine the teachings of the Bellamy and Cowie references.

The Bellamy reference is directed to overcoming negative effects associated with "hot plug" or "hot swapping" connectors into active circuits. In order to overcome these negative effects, the Bellamy reference teaches a connector having at least one long resistive coated pin wherein when the connector is inserted into a circuit board connector the long pin makes initial contact and the voltage is applied gradually to the board capacitors and to prevent high frequency noise. (See Bellamy, col. 2, ll. 7-21) To this end, the resistive layer 13 is made of a relatively high resistance material (2 ohms in a first embodiment and 60 to 100 ohms in a second embodiment). (See col. 3, lines 36-64)

This is contrary and quite distinct from the Cowie reference which is directed to coatings that provide low electrical resistance in both ambient and high temperatures. (See col. 2, ll. 5-8) More particularly, the Cowie reference teaches a coating having a static contact resistance of less than 20 milliohms and preferably less than 10 milliohms. (See col. 3, ll. 5-7, 20-22, and Tables 2 and 3) The purpose of the Cowie reference is to provide a coating that is resistant to oxidation and corrosion yet provides **low electrical resistance**. As such, a low resistance material is applied to a copper or copper alloy substrate therein providing a high conduction contact that is resistant to oxidation and corrosion. This is contrary to Bellamy connector in which the outer or resistive layer provides **a relatively low conduction** contact that keeps the current flow relatively low so as to slowly charge the capacitors and limit high frequency noise. Furthermore, the Cowie reference does not simply teach having two different materials in direct contact with each other but more specifically an outer material that will provide relatively low electrical resistance but also provide improved resistance to oxidation and corrosion.

The examiner states "It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a resistive material in direct contact with a conductive material onto the contact

of Bellamy et al, as taught by Cowie et al *to provide a good electrical conduction.*" (emphasis added) However, this is contrary to the Bellamy reference which does not want to provide good electrical conduction. In light of the foregoing, it is clear that one of ordinary skill in the art would not be motivated to combine the teachings of the Cowie reference with the teachings of the Bellamy reference as each reference is trying to achieve completely opposite characteristics in the disclosed connector.

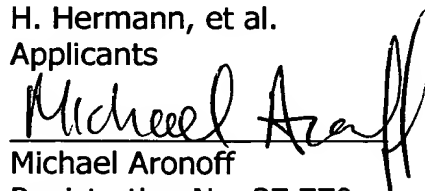
In light of the foregoing, it is respectfully submitted that independent claims 27 and 28 are patentably distinct from the Bellamy and Cowie references, whether considered alone or in combination. It is respectfully requested that the examiner reconsider and withdraw the rejection and issue a notice of allowance at the earliest possible time.

If the examiner is unwilling to withdraw the rejections, Applicants officially request an examiner interview prior to the issuance of any new Office Action. If the examiner has any questions regarding the presently pending claims which could be easily resolved by a telephone conference, the examiner is respectfully requested to contact the Applicants' representative at the below listed number.

Respectfully submitted,

H. Hermann, et al.
Applicants

By:


Michael Aronoff
Registration No. 37,770
Attorney for Applicants
Phone: (650) 361-5979
Facsimile: (650) 361-5623